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(120) Novel polypeptides, cDNA coding these polypeptides and Use thereof

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(151) 1998-04-28

(160) 12

(170) PatentIn Ver. 2.0

(210) 1

(211) 448

(212) PRT

(213) Mus musculus

(400) 1

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-23

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-5

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Gly Tyr Leu Cys Ile Pro Arg Thr Asn Pro Val Tyr Arg Gly Pro Tyr

45 50 55

Ser Asn Pro Tyr Ser Thr Ser Tyr Ser Gly Pro Tyr Pro Ala Ala Ala

60 65 70

Pro Pro Val Pro Ala Ser Asn Tyr Pro Thr Ile Ser Arg Pro Leu Val

75 80 85

Cys Arg Phe Gly Tyr Gln Met Asp Glu Gly Asn Gln Cys Val Asp Val

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Asp Glu Cys Ala Thr Asp Ser His Gln Cys Asn Pro Thr Gln Ile Cys

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Ile Asn Thr Glu Gly Gly Tyr Thr Cys Ser Cys Thr Asp Gly Tyr Trp

125 130 135

Leu Leu Glu Gly Gln Cys Leu Asp Ile Asp Glu Cys Arg Tyr Gly Tyr

140 145 150

Cys Gln Gln Leu Cys Ala Asn Val Pro Gly Ser Tyr Ser Cys Thr Cys

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Asn Pro Gly Phe Thr Leu Asn Asp Asp Gly Arg Ser Cys Gln Asp Val

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205 210 215

4210 · 2

4211 · 1344

4212 · DNA

4213 · *Mus musculus*

4400 · 2

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· 210 · 3

· 211 · 2233

· 212 · DNA

· 213 · Mus musculus

· 220 ·

· 223 · Clone mouse A55 derived from Day 13 mouse embryonic heart

· 220 ·

· 221 · CDS

· 222 · (75).. (1418)

· 220 ·

· 221 · sig_peptide

· 222 · (75).. (143)

· 220 ·

· 221 · mat_peptide

· 222 · (144).. (1418)

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Met Pro Gly Leu Lys Arg Ile Leu Thr Val Thr Ile

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-5

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Asn Gln Asn Gly Gly Tyr Leu Cys Ile Pro Arg Thr Asn Pro Val Tyr

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Arg Gly Pro Tyr Ser Asn Pro Tyr Ser Thr Ser Tyr Ser Gly Pro Tyr

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65

cca gca gcg gcc cca cca gta cca gct tcc aac tac ccc acg att tca 398
Pro Ala Ala Ala Pro Pro Val Pro Ala Ser Asn Tyr Pro Thr Ile Ser

70

75

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Thr Gln Ile Cys Ile Asn Thr Glu Gly Gly Tyr Thr Cys Ser Cys Thr			
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Asp Gly Tyr Trp Leu Leu Glu Gly Gln Cys Leu Asp Ile Asp Glu Cys			
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Arg Tyr Gly Tyr Cys Gln Gln Leu Cys Ala Asn Val Pro Gly Ser Tyr			
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Ser Cys Thr Cys Asn Pro Gly Phe Thr Leu Asn Asp Asp Gly Arg Ser			
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Cys Gln Asp Val Asn Glu Cys Glu Thr Glu Asn Pro Cys Val Gln Thr			
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Cys Val Asn Thr Tyr Gly Ser Phe Ile Cys Arg Cys Asp Pro Gly Tyr			
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gaa ctt gag gaa gat ggc att cac tgc agt gat atg gac gag tgc agc			830
Glu Leu Glu Glu Asp Gly Ile His Cys Ser Asp Met Asp Glu Cys Ser			
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Tyr Phe Cys Ser Cys Pro Pro Gly Tyr Val Leu Leu Asp Asp Asn Arg
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Ser Cys Gln Asp Ile Asn Glu Cys Glu His Arg Asn His Thr Cys Thr
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ccc atc agc tgt gag gag cct tat ctg ctg att ggt gaa aac cgc tgt 1070
Pro Ile Ser Cys Glu Glu Pro Tyr Leu Leu Ile Gly Glu Asn Arg Cys
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Met Cys Pro Ala Glu His Thr Ser Cys Arg Asp Gln Pro Phe Thr Ile
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Leu Tyr Arg Asp Met Asp Val Val Ser Gly Arg Ser Val Pro Ala Asp
330 335 340
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Ile Phe Gln Met Gln Ala Thr Thr Arg Tyr Pro Gly Ala Tyr Tyr Ile
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ttc cag atc aaa tct ggc aac gag ggt cga gag ttc tat atg cgg caa 1262
Phe Gln Ile Lys Ser Gly Asn Glu Gly Arg Glu Phe Tyr Met Arg Gln
360 365 370

aca ggg cct atc agt gcc acc ctg gtg atg aca cgc ccc atc aaa ggg 1310
Thr Gly Pro Ile Ser Ala Thr Leu Val Met Thr Arg Pro Ile Lys Gly

375

380

385

cct cgg gac atc cag ctg gac ttg gag atg atc act gtc aac act gtc 1358
Pro Arg Asp Ile Gln Leu Asp Leu Glu Met Ile Thr Val Asn Thr Val

390

395

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405

atc aac ttc aga ggc agc tcc gtg atc cga ctg cgg ata tat gtg tgg 1406
Ile Asn Phe Arg Gly Ser Ser Val Ile Arg Leu Arg Ile Tyr Val Ser

410

415

420

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Gln Tyr Pro Phe

425

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210 4

211 423

212 PRT

213 Mus musculus

400 4

Gln Cys Thr Asn Gly Phe Asp Leu Asp Arg Gln Ser Gly Gln Cys Leu

1 5 10 15

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Met Cys Val Asn Gln Asn Gly Gly Tyr Leu Cys Ile Pro Arg Thr Asn

35 40 45

Pro Val Tyr Arg Gly Pro Tyr Ser Asn Pro Tyr Ser Thr Ser Tyr Ser

50 55 60

Gly Pro Tyr Pro Ala Ala Ala Pro Pro Val Pro Ala Ser Asn Tyr Pro

65 70 75 80

Thr Ile Ser Arg Pro Leu Val Cys Arg Phe Gly Tyr Gln Met Asp Glu

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Gly Asn Gln Cys Val Asp Val Asp Glu Cys Ala Thr Asp Ser His Gln

100 105 110

Cys Asn Pro Thr Gln Ile Cys Ile Asn Thr Glu Gly Gly Tyr Thr Cys

115 120 125

Ser Cys Thr Asp Gly Tyr Trp Leu Leu Glu Gly Gln Cys Leu Asp Ile

130 135 140

Asp Glu Cys Arg Tyr Gly Tyr Cys Gln Gln Leu Cys Ala Asn Val Pro

145	150	155	160
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Val Gln Thr Cys Val Asn Thr Tyr Gly Ser Phe Ile Cys Arg Cys Asp			
	195	200	205
Pro Gly Tyr Glu Leu Glu Glu Asp Gly Ile His Cys Ser Asp Met Asp			
	210	215	220
Glu Cys Ser Phe Ser Glu Phe Leu Cys Gln His Glu Cys Val Asn Gln			
225	230	235	240
Pro Gly Ser Tyr Phe Cys Ser Cys Pro Pro Gly Tyr Val Leu Leu Asp			
	245	250	255
Asp Asn Arg Ser Cys Gln Asp Ile Asn Glu Cys Glu His Arg Asn His			
	260	265	270
Thr Cys Thr Ser Leu Gln Thr Cys Tyr Asn Leu Gln Gly Gly Phe Lys			
	275	280	285
Cys Ile Asp Pro Ile Ser Cys Glu Glu Pro Tyr Leu Leu Ile Gly Glu			
	290	295	300
Asn Arg Cys Met Cys Pro Ala Glu His Thr Ser Cys Arg Asp Gln Pro			
305	310	315	320
Phe Thr Ile Leu Tyr Arg Asp Met Asp Val Val Ser Gly Arg Ser Val			
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Pro Ala Asp Ile Phe Gln Met Gln Ala Thr Thr Arg Tyr Pro Gly Ala			
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Tyr Tyr Ile Phe Gln Ile Lys Ser Gly Asn Glu Gly Arg Glu Phe Tyr			

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·210· 5

·211· 1269

·212· DNA

·213· Mus musculus

·400· 5

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· 210 · 6

· 211 · 461

· 212 · PRT

· 213 · Mus musculus

· 400 · 6

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-35

-30

-25

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-20

-15

-10

-5

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80	85	90	
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110	115	120	
Glu Gly Gly Tyr Thr Cys Ser Cys Thr Asp Gly Tyr Trp Leu Leu Glu			
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Gly Gln Cys Leu Asp Ile Asp Glu Cys Arg Tyr Gly Tyr Cys Gln Gln			
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Phe Thr Leu Asn Asp Asp Gly Arg Ser Cys Gln Asp Val Asn Glu Cys			
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Phe Ile Cys Arg Cys Asp Pro Gly Tyr Glu Leu Glu Glu Asp Gly Ile			

205	210	215	220
His Cys Ser Asp Met Asp Glu Cys Ser Phe Ser Glu Phe Leu Cys Gln			
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His Glu Cys Val Asn Gln Pro Gly Ser Tyr Phe Cys Ser Cys Pro Pro			
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Gly Tyr Val Leu Leu Asp Asp Asn Arg Ser Cys Gln Asp Ile Asn Glu			
	255	260	265
Cys Glu His Arg Asn His Thr Cys Thr Ser Leu Gln Thr Cys Tyr Asn			
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Leu Gln Gly Gly Phe Lys Cys Ile Asp Pro Ile Ser Cys Glu Glu Pro			
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Tyr Leu Leu Ile Gly Glu Asn Arg Cys Met Cys Pro Ala Glu His Thr			
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Ser Cys Arg Asp Gln Pro Phe Thr Ile Leu Tyr Arg Asp Met Asp Val			
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Val Ser Gly Arg Ser Val Pro Ala Asp Ile Phe Gln Met Gln Ala Thr			
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Thr Arg Tyr Pro Gly Ala Tyr Tyr Ile Phe Gln Ile Lys Ser Gly Asn			
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Glu Gly Arg Glu Phe Tyr Met Arg Gln Thr Gly Pro Ile Ser Ala Thr			
365	370	375	380
Leu Val Met Thr Arg Pro Ile Lys Gly Pro Arg Asp Ile Gln Leu Asp			
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<211 · 1383

<212 · DNA

<213 · Mus musculus

<400 · 7

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· 210 · 8

· 211 · 2429

· 212 · DNA

· 213 · Mus musculus

· 220 ·

· 223 · Clone mouse A55b derived from Day 13 mouse embryonic heart

· 220 ·

· 221 · CDS

· 222 · (232).. (1614)

· 220 ·

· 221 · sig_peptide

· 222 · (232).. (339)

· 220 ·

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Met Gly

-35

cct aga agt ttc gag cca atg cac agt gga ctc tgc aga cag aga cgc 285

Pro Arg Ser Phe Glu Pro Met His Ser Gly Leu Cys Arg Gln Arg Arg

-30

-25

-20

atg ata ctc act gtt acc atc ttg gca ctc tgg ctt cca cat cct ggg 333

Met Ile Leu Thr Val Thr Ile Leu Ala Leu Trp Leu Pro His Pro Gly

-15

-10

-5

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Asn Ala Gln Gln Gln Cys Thr Asn Gly Phe Asp Leu Asp Arg Gln Ser

-1 1

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10

gga cag tgt cta gat att gat gaa tgc cgg acc atc cct gag gct tgt 429

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15

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25

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cgt ggg gac atg atg tgt gtc aac cag aat ggc ggg tat ttg tgc atc 477

Arg Gly Asp Met Met Cys Val Asn Gln Asn Gly Gly Tyr Leu Cys Ile

35

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45

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Pro Arg Thr Asn Pro Val Tyr Arg Gly Pro Tyr Ser Asn Pro Tyr Ser

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55

60

aca tcc tac tca ggc cca tac cca gca ggc gcc cca cca gta cca gct 573

Thr Ser Tyr Ser Gly Pro Tyr Pro Ala Ala Ala Pro Pro Val Pro Ala

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70

75

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90

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Gln Met Asp Glu Gly Asn Gln Cys Val Asp Val Asp Glu Cys Ala Thr

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100

105

110

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Asp Ser His Gln Cys Asn Pro Thr Gln Ile Cys Ile Asn Thr Glu Gly

115

120

125

ggc tac acc tgc tcc tgc acc gat ggc tac tgg ctt ctg gaa ggc cag 765

Gly Tyr Thr Cys Ser Cys Thr Asp Gly Tyr Trp Leu Leu Glu Gly Gln

130

135

140

tgc cta gat att gat gaa tgt cgc tat ggc tac tgc cag cag ctc tgt 813

Cys Leu Asp Ile Asp Glu Cys Arg Tyr Gly Tyr Cys Gln Gln Leu Cys

145

150

155

gca aat gtt cca gga tcc tat tcc tgt aca tgc aac cct ggc ttc acc 861

Ala Asn Val Pro Gly Ser Tyr Ser Cys Thr Cys Asn Pro Gly Phe Thr

160

165

170

ctc aac gac gat gga agg tct tgc caa gat gtg aac gag tgc gaa act 909

Leu Asn Asp Asp Gly Arg Ser Cys Gln Asp Val Asn Glu Cys Glu Thr

175

180

185

190

gag aat ccc tgt gtt cag acc tgt gtc aac acc tat ggc tct ttc atc 957

Glu Asn Pro Cys Val Gln Thr Cys Val Asn Thr Tyr Gly Ser Phe Ile

195

200

205

tgc cgc tgt gac cca gga tat gaa ctt gag gaa gat ggc att cac tgc 1005

Cys Arg Cys Asp Pro Gly Tyr Glu Leu Glu Glu Asp Gly Ile His Cys

210

215

220

agt gat atg gac gag tgc agc ttc tcc gag ttc ctc tgt caa cac gag 1053

Ser Asp Met Asp Glu Cys Ser Phe Ser Glu Phe Leu Cys Gln His Glu

225

230

235

tgt gtg aac cag ccg ggc tca tac ttc tgc teg tgc cct cca ggc tac 1101

Cys Val Asn Gln Pro Gly Ser Tyr Phe Cys Ser Cys Pro Pro Gly Tyr

240

245

250

gtc ctg ttg gat gat aac cga agc tgc cag gat atc aat gaa tgt gag 1149

Val Leu Leu Asp Asp Asn Arg Ser Cys Gln Asp Ile Asn Glu Cys Glu

255

260

265

270

cac cga aac cac acg tgt acc tca ctg cag act tgc tac aat cta caa 1197

His Arg Asn His Thr Cys Thr Ser Leu Gln Thr Cys Tyr Asn Leu Gln

275

280

285

ggg ggc ttc aaa tgt att gat ccc atc agc tgt gag gag cct tat ctg 1245

Gly Gly Phe Lys Cys Ile Asp Pro Ile Ser Cys Glu Glu Pro Tyr Leu

290

295

300

ctg att ggt gaa aac cgc tgt atg tgt cct gct gag cac acc agc tgc 1293

Leu Ile Gly Glu Asn Arg Cys Met Cys Pro Ala Glu His Thr Ser Cys

305

310

315

aga gac cag cca ttc acc atc ctg tat cgg gac atg gat gtg gtg tca 1341

Arg Asp Gln Pro Phe Thr Ile Leu Tyr Arg Asp Met Asp Val Val Ser

320	325	330	
gga cgc tcc gtt cct gct gac atc ttc cag atg caa gca aca acc cga			1389
Gly Arg Ser Val Pro Ala Asp Ile Phe Gln Met Gln Ala Thr Thr Arg			
335	340	345	350
tac cct ggt gcc tat tac att ttc cag atc aaa tct ggc aac gag ggt			1437
Tyr Pro Gly Ala Tyr Tyr Ile Phe Gln Ile Lys Ser Gly Asn Glu Gly			
355	360	365	
cga gag ttc tat atg cgg caa aca ggg cct atc agt gcc acc ctg gtg			1485
Arg Glu Phe Tyr Met Arg Gln Thr Gly Pro Ile Ser Ala Thr Leu Val			
370	375	380	
atg aca cgc ccc atc aaa ggg cct cgg gac atc cag ctg gac ttg gag			1533
Met Thr Arg Pro Ile Lys Gly Pro Arg Asp Ile Gln Leu Asp Leu Glu			
385	390	395	
atg atc act gtc aac act gtc atc aac ttc aga ggc agc tcc gtg atc			1581
Met Ile Thr Val Asn Thr Val Ile Asn Phe Arg Gly Ser Ser Val Ile			
400	405	410	
cga ctg cgg ata tat gtg tgg cag tat ccg ttc tgagcctctg gctaaggcct			1634
Arg Leu Arg Ile Tyr Val Ser Gln Tyr Pro Phe			
415	420	425	
ctgacactgc ctttcaccag caccgaggga cgggaggaga aaggaaacca gcaagaatga			1694
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 tgaagaaaaa aaaaa 2429

· 210 · 9

· 211 · 423

· 212 · PRT

· 213 · Mus musculus

· 400 · 9

Gln Cys Thr Asn Gly Phe Asp Leu Asp Arg Gln Ser Gly Gln Cys Leu

1 5 10 15

Asp Ile Asp Glu Cys Arg Thr Ile Pro Glu Ala Cys Arg Gly Asp Met

20 25 30

Met Cys Val Asn Gln Asn Gly Gly Tyr Leu Cys Ile Pro Arg Thr Asn

35 40 45

Pro Val Tyr Arg Gly Pro Tyr Ser Asn Pro Tyr Ser Thr Ser Tyr Ser

50 55 60

Gly Pro Tyr Pro Ala Ala Ala Pro Pro Val Pro Ala Ser Asn Tyr Pro

65 70 75 80

Thr Ile Ser Arg Pro Leu Val Cys Arg Phe Gly Tyr Gln Met Asp Glu

	85	90	95
Gly Asn Gln Cys Val Asp Val Asp Glu Cys Ala Thr Asp Ser His Gln			
100	105	110	
Cys Asn Pro Thr Gln Ile Cys Ile Asn Thr Glu Gly Gly Tyr Thr Cys			
115	120	125	
Ser Cys Thr Asp Gly Tyr Trp Leu Leu Glu Gly Gln Cys Leu Asp Ile			
130	135	140	
Asp Glu Cys Arg Tyr Gly Tyr Cys Gln Gln Leu Cys Ala Asn Val Pro			
145	150	155	160
Gly Ser Tyr Ser Cys Thr Cys Asn Pro Gly Phe Thr Leu Asn Asp Asp			
165	170	175	
Gly Arg Ser Cys Gln Asp Val Asn Glu Cys Glu Thr Glu Asn Pro Cys			
180	185	190	
Val Gln Thr Cys Val Asn Thr Tyr Gly Ser Phe Ile Cys Arg Cys Asp			
195	200	205	
Pro Gly Tyr Glu Leu Glu Glu Asp Gly Ile His Cys Ser Asp Met Asp			
210	215	220	
Glu Cys Ser Phe Ser Glu Phe Leu Cys Gln His Glu Cys Val Asn Gln			
225	230	235	240
Pro Gly Ser Tyr Phe Cys Ser Cys Pro Pro Gly Tyr Val Leu Leu Asp			
245	250	255	
Asp Asn Arg Ser Cys Gln Asp Ile Asn Glu Cys Glu His Arg Asn His			
260	265	270	
Thr Cys Thr Ser Leu Gln Thr Cys Tyr Asn Leu Gln Gly Gly Phe Lys			
275	280	285	
Cys Ile Asp Pro Ile Ser Cys Glu Glu Pro Tyr Leu Leu Ile Gly Glu			

290 295 300
 Asn Arg Cys Met Cys Pro Ala Glu His Thr Ser Cys Arg Asp Gln Pro
 305 310 315 320
 Phe Thr Ile Leu Tyr Arg Asp Met Asp Val Val Ser Gly Arg Ser Val
 325 330 335
 Pro Ala Asp Ile Phe Gln Met Gln Ala Thr Thr Arg Tyr Pro Gly Ala
 340 345 350
 Tyr Tyr Ile Phe Gln Ile Lys Ser Gly Asn Glu Gly Arg Glu Phe Tyr
 355 360 365
 Met Arg Gln Thr Gly Pro Ile Ser Ala Thr Leu Val Met Thr Arg Pro
 370 375 380
 Ile Lys Gly Pro Arg Asp Ile Gln Leu Asp Leu Glu Met Ile Thr Val
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 Asn Thr Val Ile Asn Phe Arg Gly Ser Ser Val Ile Arg Leu Arg Ile
 405 410 415
 Tyr Val Ser Gln Tyr Pro Phe
 420

· 210 · 10

· 211 · 1269

· 212 · DNA

· 213 · Mus musculus

· 400 · 10

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1269

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<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Primer

<400> 11

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35

· 210 · 12

· 211 · 27

· 212 · DNA

· 213 · Artificial Sequence

· 220 ·

· 223 · Description of Artificial Sequence:mA55 R1 primer

<400> 12

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27